

DOCUMENT RESUME

ED 278 427

IR 051 789

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TITLE Relationship of Technology and Characteristics of Library Functional Units.
INSTITUTION Illinois Univ., Urbana. University Library.
SPONS AGENCY Council on Library Resources, Inc., Washington, D.C.
REPORT NO CLR-799A
PUB DATE 10 Dec 86
NOTE 26p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Libraries; Administrative Organization; *Job Satisfaction; *Library Automation; Library Research; Library Surveys; *Organizational Change; Organizational Climate; Questionnaires; *Research Libraries
IDENTIFIERS Association of Research Libraries

ABSTRACT

The project summarized in this report collected data from 3 of the 25 largest Association of Research Library (ARL) member libraries in order to: (1) examine the durability of the measure of technology set forth in "An Empirical Assessment of Perrow's Technology Construct" (Administrative Science Quarterly, 1974, pp. 338-356); (2) study the impact of computer applications on the key functional units of research libraries; and (3) compare 1971-72 data with 1985-86 data to begin an assessment of organizational change. Functional units examined included acquisitions, cataloging, circulation, reference, collection development, automated systems, serials, and preservation. Data were collected from questionnaires distributed to all full-time staff in the core functional units being investigated; 530 questionnaires were distributed, and 334 were returned, yielding a response rate of 63%. In addition, site visits were made to the three libraries and unit heads were formally interviewed. The bulk of the report consists of four appendices, which include the University Library Questionnaire, an interview schedule, an abstract of "Job Satisfaction in Libraries--A Replication," to be published in the April 1987 Library Quarterly; and a draft abstract of "The Impact of Computing on Professional and Non-Professional Employees in Research Libraries." (KM)

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Report to the Council on Library Resources
on
Project: Relationship of Technology and Characteristics of Library
Functional Units. CLR 799A; PGC Library Resources 2-5-36859

by

Beverly P. Lynch and Jo Ann Verdin

December 10, 1986

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ment do not necessarily represent official
OEI position or policy.

The purpose of this project was to collect data from three major research libraries in order 1) to replicate Lynch's earlier investigation so as to examine the durability of Lynch's measure of technology (Lynch, Beverly P., "An Empirical Assessment of Perrow's Technology Construct," Administrative Science Quarterly, (1974) pp. 338-356; 2) to study the impact of computer applications on the key functional units of research libraries; 3) to compare 1971/72 data with 1985/86 data to begin an assessment of organizational change.

Three research libraries participated in the project. They are among the twenty five largest libraries belonging to the Association of Research Libraries. The libraries were guaranteed anonymity so their exact location, size, and historical development cannot be disclosed. 530 questionnaires were distributed to all full-time staff in the core functional units being investigated. 334 questionnaires were returned by mail for a response rate of 63%. No follow-up mailings were made, for the investigators, using mailing labels provided by the libraries, guaranteed anonymity of response. No codings of individual respondents were made. The questionnaire used in this study is attached as Appendix A.

The functional units participating in the study were acquisitions (2 libraries) cataloging (3 libraries) circulation (3 libraries) reference (3 libraries) collection development (1 library) automated systems (3 libraries) serials (1 library) preservation (2 libraries). The people in the acquisitions unit in one of the three libraries declined to participate in the study. In two of the three libraries collection development was distributed across a number of units.

The investigators made site visits to the three libraries to present the plan of the investigation to the library's senior administrators, to explore the library's organization, and to determine the units that would participate, that is, those units performing the core functions of the library.

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One investigator returned to conduct the formal interviews with unit heads. The interview schedule included questions designed to explore the departmental structure, the organizational climate, the nature of the application of computing and library automation, and the changing environmental factors that might help explain anticipated variations of job satisfaction. The interview schedule is attached as Appendix B. The interview data were used to aid in the interpretation of the statistical analyses and to cross check the data gathered through the survey instrument.

A summary of the data collected in each library was prepared and sent the the appropriate library director.

The first journal article, the replication of the Lynch-Verdin job satisfaction study ("Job Satisfaction in Libraries: Relationships of the Work Itself, Age, Sex, Occupational Group, Tenure, Supervisory Level, Career Commitment, and Library Department," Library Quarterly, v. 53 (1983) pp. 434-447) will be published in the April 1987 issue of Library Quarterly. The abstract of that paper is attached as Appendix C.

The second paper, tentatively titled, "The Impact of Computing on Professional and Non-Professional Employees in Research Libraries," is in preparation. It will be submitted to College & Research Libraries. A draft abstract of that paper is attached as Appendix D.

A third paper, comparing the impact of computer technology on three different employee groups (human resources managers, middle managers in banking, and librarians in research libraries) is under consideration.

Lynch is developing the replication of her earlier technology investigation.

Presentations on the impact of computing study are being proposed to the American Library Association and the Academy of Management.

The goals and objectives of the grant from the Council on Library Resources have been met. Therefore we submit this report as our final report. We are grateful to the Council on Library Resources for its support and encouragement of this project.

UNIVERSITY LIBRARY QUESTIONNAIRE

Background

We begin with a few questions on your background in the library.

1. Counting the present year, how many years have you worked in this library?

----- (1) less than 1 year	----- (5) 7-8 years
----- (2) 1-2 years	----- (6) 9-10 years
----- (3) 3-4 years	----- (7) 11-14 years
----- (4) 5-6 years	----- (8) 15-24 years
	----- (9) 25 or more years

2. Have you ever worked for more than six months in another library of the same type as this one?

----- (1) no
----- (2) one other library
----- (3) more than one other library

3. Counting the present year, what is the total number of years library experience you have had?

----- (1) less than 1 year	----- (5) 7-8 years
----- (2) 1-2 years	----- (6) 9-10 years
----- (3) 3-4 years	----- (7) 11-14 years
----- (4) 5-6 years	----- (8) 15-24 years
	----- (9) 25 or more years

4. In what department are you now working?

----- (1) Reference
----- (2) Acquisitions
----- (3) Cataloging
----- (4) Circulation
----- (5) Collection & Development
----- (6) Other (Please write in) _____

5. In which section or unit within the department, if any, are you now working? (Please write in) _____

6. How long have you been in your present job?

----- (1) less than 3 months	----- (4) 1-2 years
----- (2) 3-6 months	----- (5) 3-5 years
----- (3) 6-12 months	----- (6) 6 years or more

7. How is your job classified?

----- (1) Non-professional
----- (2) Professional
----- (3) Other (Please write in) _____

8.A. Are you a department head? _____(1) Yes _____(2) No

B. Are you a head of a section or unit within the department?

_____ (1) Yes _____ (2) No

C. If not a department head or head of a unit or section, do you supervise, that is, direct the major portion of the work day, the work of any other persons in your department?

_____ (1) Yes _____ (2) No

Library Work

1. Think of all the kinds of events that cause your work. How often would you say you are able to anticipate and predict the nature of these events?

Never	Almost Never	Occasion- ally	Fairly Often	Usually	Almost Never	Always
1	2	3	4	5	6	7

2. How often do you encounter the same kinds of problems in your work?

Never	Almost Never	Occasion- ally	Fairly Often	Usually	Almost Never	Always
1	2	3	4	5	6	7

3. In general, how often is your work interrupted by unexpected or unplanned-for events?

Never	Almost Never	Occasion- ally	Fairly Often	Usually	Almost Never	Always
1	2	3	4	5	6	7

4. Under present arrangements, how much freedom do you have to control the events that initiate your work?

A Great Deal of Freedom	Considerable Freedom	Some Freedom	Little Freedom	No Freedom
1	2	3	4	5

5. In this department, would it be possible to exert more control over events that initiate your work?

No Control	Little Control	Some Control	Considerable Control	A Great Deal of Control
1	2	3	4	5

6. How much variety is there in the events that cause your work?

A Great Deal
of Variety

Very Little
Variety

1 2 3 4 5 6 7

7. Are the events that cause your work easy to handle?

Very Easy
to Handle

Very Hard
to Handle

1 2 3 4 5 6 7

8. Are the events that cause your work interesting?

Very Interesting
Events

Very Uninteresting
Events

1 2 3 4 5 6 7

9. Do the events that cause your work seem repetitious?

Events Seem
Very Repetitious

Events Seem Not
at all Repetitious

1 2 3 4 5 6 7

10. Think of the various types of activities you perform in connection with your job. How often are there standard operating procedures, including those you develop yourself, which you routinely follow either because you are asked to use them or you choose to use them?

Always	Almost Always	Usually	Fairly Often	Occasion- ally	Almost Never	Never
1	2	3	4	5	6	7

11. To what extent are the work decisions you make dissimilar from one day to the next?

Very Dissimilar
Work Decisions

Very Similar
Work Decisions

1 2 3 4 5 6 7

12. Many library jobs require the use of searching procedures of one kind or another. To what extent are the search procedures you use dissimilar from one day to the next?

Very Dissimilar
Search Procedures

Very Similar
Search Procedures

1 2 3 4 5 6 7

13. How often does a rules manual cover what you are working on?

Never	Almost Never	Occasion- ally	Fairly Often	Usually	Almost Always	Always
1	2	3	4	5	6	7

14. How helpful is your supervisor in enabling you to carry out your work?

Extremely Helpful						Not at All Helpful
1	2	3	4	5	6	7

15. Regarding your training and skills, would you say you now have

- (1) much more than needed for your present job
 -----(2) more than needed for your present job
 -----(3) proper amount for your present job
 -----(4) less than needed for your present job
 -----(5) much less than needed for your present job

If you checked 4 or 5 above, what additional training or skills do you need for your present job? (Please write in)-----

16. A reading knowledge of two or more foreign languages is necessary for effective performance in this job.

Definitely True						Definitely False
1	2	3	4	5	6	7

17. Knowledge of basic computer search procedures is necessary for effective performance in this job.

Definitely True						Definitely False
1	2	3	4	5	6	7

18. How long would it take to train a suitable replacement for your job?

A few Days	Several Weeks	One Month	Several Months	Six Months	More Than Six Months	More Than One Year
1	2	3	4	5	6	7

Your Job and Department

How false or true are each of the following questions?

1. The nature of my job changes because the library changes.

Definitely False

Definitely True

1 2 3 4 5 6 7

2. My job gives me the chance to do the things I do best.

Definitely False

Definitely True

1 2 3 4 5 6 7

3. There is variety in my job, but it is not hard to do.

Definitely False

Definitely True

1 2 3 4 5 6 7

4. My job is frustrating, but it is never dull.

Definitely False

Definitely True

1 2 3 4 5 6 7

5. The most important thing about my job is the challenge it offers.

Definitely False

Definitely True

1 2 3 4 5 6 7

6. There are parts of my job that could be eliminated without really affecting the work of the library.

Definitely False

Definitely True

1 2 3 4 5 6 7

7. I have little control and final say over how I do my job.

Definitely False

Definitely True

1 2 3 4 5 6 7

8. The job that I am doing is less challenging than I expected when I started working in this position.

Definitely False

Definitely True

1 2 3 4 5 6 7

9. The longer I hold my job the more boring it becomes.

Definitely False

Definitely True

1 2 3 4 5 6 7

10. In my job there is something new happening every day.

Definitely False

Definitely True

1 2 3 4 5 6 7

11. A challenging job is very important to me.

Definitely False

Definitely True

1 2 3 4 5 6 7

12. Whatever situation arises, we have procedures to follow in dealing with it.

Definitely False

Definitely True

1 2 3 4 5 6 7

13. Whenever we have a problem we are supposed to go to the same person for an answer.

Definitely False

Definitely True

1 2 3 4 5 6 7

14. In this department people are often permitted to use their own judgment as to how to handle various problems.

Definitely False

Definitely True

1 2 3 4 5 6 7

15. There are a lot of rules, policies, procedures and standard practices one has to know in order to do his work well in this department.

Definitely False

Definitely True

1 2 3 4 5 6 7

16. Unnecessary procedures are kept to a minimum in this department.

Definitely False

Definitely True

1 2 3 4 5 6 7

17. The assignments in this department are precisely defined.

Definitely False

Definitely True

1 2 3 4 5 6 7

18. The assignments in this department should be precisely defined.

Definitely False

Definitely True

1 2 3 4 5 6 7

19. In this department quality rather than quantity of the work is the important thing.

Definitely False

Definitely True

1 2 3 4 5 6 7

20. It is difficult for new and original ideas to receive consideration in this department.

Definitely False

Definitely True

1 2 3 4 5 6 7

21. This department is organized in such a way that the supervisors can let us know when we are doing well.

Definitely False

Definitely True

1 2 3 4 5 6 7

22. The same procedures are to be followed in most situations.

Definitely False

Definitely True

1 2 3 4 5 6 7

23. Most of the people in this department are uncertain about the way they should do their jobs.

Definitely False

Definitely True

1 2 3 4 5 6 7

24. When the group that you work with coordinates its activities with other groups that it deals with, is this generally done on
 a. a routine basis that is planned in advance, or
 b. is it primarily handled on the spot and on a case-by-case basis depending upon the problems at hand?

Coordination Mostly
Planned in Advance

Coordination Mostly
Performed on the Spot

1 2 3 4 5 6 7

25. Is the work done by your department evenly distributed among the staff?

Very Evenly Distributed

Very Unevenly Distributed

1 2 3 4 5 6 7

26. Are the people in your department kept informed about the library's policies and long-range objectives?

Staff Kept Well Informed

Staff Not at all Informed

1 2 3 4 5 6 7

27. A. In general, how is the morale of the staff in this department?

Very Low

Very High

1 2 3 4 5 6 7

B. How about your own morale?

Very Low

Very High

1 2 3 4 5 6 7

Organization of Your Particular Job

1. When you come up against a tough problem that might involve the concerns of another department, do you almost always check first with your superior before getting involved with the other department, or do you almost always go directly to the people in the other department without checking first?

Almost Always Check
with Superior First
Before Getting Involved

Almost Always Go
Directly to People
In other Department

1 2 3 4 5 6 7

2. Generally speaking, how frequently does your supervisor check your work?

----- (1) once or more a day
----- (2) several times a week
----- (3) once a week
----- (4) several times a month
----- (5) once a month
----- (6) every 2 or 3 months
----- (7) about once a year or less often

3. How often, when you do your work, is it necessary for you to make major adjustments in your procedures to take account of the variability in the situation.

Always	Almost Always	Usually	Fairly Often	Occasion- ally	Almost Never	Never
1	2	3	4	5	6	7

4. About what proportion of your normal daily activities are guided by written manuals or directives that set forth the way in which you are to perform your job?

Few Activities Guided by Written Manuals			Almost all Activities Guided by Written Manuals			
1	2	3	4	5	6	7

5. How often do you refer to written manuals or directives?

Always	Almost Always	Usually	Fairly Often	Occasion- ally	Almost Never	Never
1	2	3	4	5	6	7

6. With regard to those tasks that are guided by written rules and manuals, how strict is your supervisor in requiring you to follow these rules?

Supervisor Very Strict			Supervisor Not At All Strict			
1	2	3	4	5	6	7

7. Would additional rules and procedures help you do your work more effectively?

More Rules Would Help			More Rules Would Not Help			
1	2	3	4	5	6	7

8. Do you feel that the rules and procedures about how to do your job are legitimate?

Rules Very Legitimate			Rules Not At All Legitimate			
1	2	3	4	5	6	7

9. Do you feel the rules and procedures about general matters such as coffee breaks, lunch times, vacations, etc., are legitimate?

Rules Very Legitimate			Rules Not At All Legitimate			
1	2	3	4	5	6	7

10. How false or true are each of the following statements?

- A. In my job I am able to work as hard as I like without co-workers slowing me down.

Definitely False

Definitely True

1 2 3 4 5 6 7

- B. The work I do keeps changing and I have to change to keep up with it.

Definitely False

Definitely True

1 2 3 4 5 6 7

- C. I sometimes have to take work home with me.

Definitely False

Definitely True

1 2 3 4 5 6 7

- D. I sometimes have to return to the library after working hours in order to finish my work.

Definitely False

Definitely True

1 2 3 4 5 6 7

- E. My job basically involves doing the same tasks in the same way every day.

Definitely False

Definitely True

1 2 3 4 5 6 7

- F. My work is not evenly paced, but comes in big pushes.

Definitely False

Definitely True

1 2 3 4 5 6 7

- G. It is impossible to learn enough about this job to handle all of the problems that come up.

Definitely False

Definitely True

1 2 3 4 5 6 7

- H. My job is organized so that it is as easy as possible to carry out effectively.

Definitely False

Definitely True

1 2 3 4 5 6 7

I. In my job there is emphasis on the actual production record.

Definitely False

Definitely True

1 2 3 4 5 6 7

J. My job is monotonous; the work itself provides no basic interest.

Definitely False

Definitely True

1 2 3 4 5 6 7

K. My family and friends are more important than my job.

Definitely False

Definitely True

1 2 3 4 5 6 7

L. I am committed to developing my current career over the next several years.

Definitely False

Definitely True

1 2 3 4 5 6 7

M. I view my work in this library as a short-term job rather than a part of a long-term career.

Definitely False

Definitely True

1 2 3 4 5 6 7

11. If there is something that you don't know how to handle in your work, can you go to someone else in the library for an answer, or is it likely to be something that no one really knows about?

Rarely Will
Others Know

Most of the Time
Others will Know

1 2 3 4 5 6 7

12. How much responsibility do you have in deciding how your job is to be carried out?

Great Deal of
Responsibility

Very Little
Responsibility

1 2 3 4 5 6 7

13. How much freedom do you have in deciding exactly how you do your own work?

Very Little Freedom

Great Deal of Freedom

1 2 3 4 5 6 7

14. How would you describe your work?

- (1) all of it is routine
- (2) most of it is routine
- (3) it is somewhat routine
- (4) it is somewhat non-routine
- (5) most of it is non-routine
- (6) all of it is non-routine

15. To what extent is your present job a real challenge to what you thing you can do?

Job Provides
No Challenge

Job Provides
Great Challenge

1 2 3 4 5 6 7

16. How satisfied are you with your present job when you compare it with similar positions in other departments or in other libraries?

Very satisfied

Very Dissatisfied

1 2 3 4 5 6 7

17. How satisfied are you with the progress you are making toward the goals that you set for yourself in your present position?

Very satisfied

Very Dissatisfied

1 2 3 4 5 6 7

18. How satisfied are you with your present job when you consider the expectations you had when you took the job?

Very satisfied

Very Dissatisfied

1 2 3 4 5 6 7

19. How satisfied are you with your present job in light of your career expectations?

Very satisfied

Very Dissatisfied

1 2 3 4 5 6 7

Impact of Automation and Computers in General

1. There is a lot of talk now about automation and the use of computers in libraries. How much would you say this factor has affected your own job in your own area of library service?

Automation Has Had
No Affect on My Job

Automation Has Affected
My Job a Great Deal

1 2 3 4 5 6 7

2. Since the computer technology has been introduced, to what extent has your job become deskilled (i.e., require fewer skills than before the technology was introduced)?

A Great Extent			Somewhat			Not At All	
1	2	3	4	5	6	7	

3. Overall, to what extent have the skill requirements of your job increased?

A Great Extent			Somewhat			Not At All	
1	2	3	4	5	6	7	

4. Since the introduction of computer technology, the number of support staff has

Increased			Remained the Same			Decreased		Don't Know
1	2	3	4	5	6	7	8	

5. Since the introduction of computer technology, the number of middle managers has

Increased			Remained the Same			Decreased		Don't Know
1	2	3	4	5	6	7	8	

6. How has the introduction of the computer changed the career opportunities for you within your library?

More Opportunities			No Change In Opportunities			Fewer Opportunities		Don't Know
1	2	3	4	5	6	7	8	

7. How has the introduction of the computer changed the career opportunities for you outside the library?

More Opportunities			No Change In Opportunities			Fewer Opportunities		Don't Know
1	2	3	4	5	6	7	8	

8. Have you used computers to work at home during your regular work hours?

-----Yes -----No

9. Have you used computers to do work directly related to your job at home after your regular hours or on weekends?

-----Yes -----No

10. Do you have your own personal computer or computer terminal at home?

-----Yes -----No

11. How has utilization of computer technology in general affected your productivity?

Higher			No Change			Lower
1	2	3	4	5	6	7

12. How has utilization of computer technology in general affected the quality of your work?

Higher			No Change			Lower
1	2	3	4	5	6	7

13. How do you react to computer technology in general?

Very Positively			I am Neutral			Very Negatively
1	2	3	4	5	6	7

Organizational Culture

Please circle the word(s) in each pair which best describes your department.

- | | | |
|--------------------------------|-----|------------------------------|
| 1. entrepreneurial | vs. | conservative |
| 2. informal | vs. | formal |
| 3. risk taking | vs. | risk averse |
| 4. results oriented | vs. | process oriented |
| 5. clear lines of authority | vs. | ambiguous lines of authority |
| 6. loosely structured | vs. | tightly structured |
| 7. team oriented | vs. | individualistic |
| 8. many relations across units | vs. | few relations across units |
| 9. long-term goals | vs. | short-term objectives |
| 10. clear goals | vs. | ambiguous goals |
| 11. mentoring | vs. | you are on your own |

Background

Finally we need to know something about your own background.

1. What is the highest degree you hold? (If you hold a degree not listed below, check the one that is most nearly equivalent to the one you hold.)

- (1) high school degree
- (2) college degree based on less than four years work
- (3) bachelor's degree
- (4) master's degree in a subject field
- (5) master's degree in library science
- (6) master's degree in a subject and master's degree in library science
- (7) specialist degree in library science
- (8) doctoral degree

2. Sex: Female_____ Male_____

3. What is your age:

- | | |
|--------------------|----------------------|
| ----- (1) under 25 | ----- (5) 40-44 |
| ----- (2) 26-29 | ----- (6) 45-49 |
| ----- (3) 30-34 | ----- (7) 50-54 |
| ----- (4) 35-39 | ----- (8) 55-59 |
| | ----- (9) 60 or more |

4. What do you think you will be doing five years from now?
(Please check only one.)

I expect to be:

- (1) working in the same library, same job
- (2) working in the same library, different job
- (3) doing administration in the same library
- (4) working in a different library, same job
- (5) working in a different library, different job
- (6) doing administration in a different library
- (7) working in a library part-time
- (8) leaving the labor force
- (9) in another type of work
- What type of work? (Please write in)_____
- (10) returning full-time to university for more library education
- (11) returning full-time to university for training in another field
- What other field? (Please write in)_____

THANK YOU FOR YOUR HELP AND COOPERATION. WE WOULD WELCOME ANY COMMENTS YOU MAY HAVE. PLEASE WRITE THEM ON THIS PAGE.

Interviewee:_____

Date:_____

Interviewer:_____

Department/Unit:_____

Describe background of the study and purpose of interview. We want to get basic information regarding the organization of your department, the type of work that is done, and generally how it is accomplished.

1. Do you have an organization chart of this department?

If yes, may I have a copy? Review with interviewee.

If no, may we draw one?

2. Could you describe the separate units in this department?

Unit Name

Functions

3. To whom do you report?

Name

Title

4. What are the primary objectives/responsibilities of your department?

5. How frequently do you hold meetings with

A. supervisors? daily weekly monthly other_____

B. all staff? daily weekly monthly other_____

Are these formal meetings? (with agenda and minutes)

_____ Yes _____ No

Do you ever meet informally?

_____ Yes _____ No

6. How frequently do you meet with other department heads in the library? daily weekly monthly other_____

Are these formal meetings?

_____ Yes _____ No

Do you ever meet informally?

_____ Yes _____ No

7. Are there any formal training programs for members of your department? _____ Yes _____ No

If yes, Topics Who Attends

8. Could you list all the machines in your department.

9. To what extent has the work of your department been automated?
 Very Little 1 2 Some 3 4 Almost All 5

How long has the work been automated?

Year Automated

System

10. Were you involved in the implementation of automated systems?
 -----Yes -----No

If yes, how was the system automated (all at once, in stages)

Would you say the implementation was successful?
 Very Successful Not At All Successful
 1 2 3 4 5

Who else was involved in the implementation process?

11. As a result of automation, did the productivity of the department

Increase	Remain the Same	Decrease
1	2 3	4 5

12. As a result of automation, have there been changes in the number of staff members as a result of automation?

Increase	Remain the Same	Decrease
1	2 3	4 5

13. What is the turnover rate for professionals in this department? -----

What is the turnover rate for nonprofessionals in this department? -----

14. What is the biggest problem this department faces?

Work Flow

We would like to get an idea of the flow of work into and out of your department.

1. Where does the work your department handles originate?
Percent

----- Outside the library (list places)

----- Another department in the library (list departments)

----- Another unit within your department (list units)

2. Here is a diagram of work flow. Would you indicate what percent of the total work within your department flows in a manner described by each of the following cases. (GIVE INTERVIEWEE WORK FLOW INTERDEPENDENCE INDEX)
Percent

----- Independent work flow

----- Sequential work flow case

----- Reciprocal work flow case

----- Team work flow case

3. Once the work is completed, where does it go?
Percent

----- Outside the library (list locations)

----- Another department in the library (list departments)

----- Another unit within your department (list units)

THANK YOU VERY MUCH. DO YOU HAVE ANY QUESTIONS OR SUGGESTIONS.

Abstract of paper: "Job Satisfaction in Libraries: a Replication."
To be published in The Library Quarterly, v. 57 (April 1987)

This investigation replicates an earlier study on job satisfaction in the work setting. The present findings corroborate the previous work. Significant variations in job satisfaction occur among functional units in libraries and among occupational groups in libraries.

The Impact of Computing on Professional and Non-Professional Employees
in Research Libraries

by

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DRAFT ABSTRACT December 5, 1986

Significant change has occurred in major research libraries over the last fifteen years. Much of this change has come about because of the application of computing technology to various library functions and operations. New units have been designed and some of the jobs of library employees have changed as a result of the automation of library tasks.

In order to study, systematically, the effects of the introduction of computing technology into the research library work place, the authors investigated the impact of computing technology on the core functional units in three research libraries. The libraries are among the twenty five largest university libraries belonging to the Association of Research Libraries. Each is at a different stage of library automation. One has fully automated its bibliographical functions including acquisitions, cataloging, and circulation; computing technology has been introduced into all units of this library. The second library has automated its circulation and cataloging functions and has plans for further implementation in other functional areas. The third is just beginning to implement its automation plans. The libraries were guaranteed anonymity, so their exact size, location, and historical development cannot be disclosed.

Three major issues guided the investigation. First we wished to identify the changes in skills required of people working in automated units and the changes in career opportunities of people working in those units. We hypothesized

a) non-professional jobs would show more deskilling than professional jobs;

b) employees with computing skills would find more career opportunities by moving out of the organization than by staying within it.

Second, we sought to identify the impact on library organization and library staff. We hypothesized

c) introduction of computer technology leads to a decrease in the numbers of the non-professional staff in automated units;

d) introduction of computer technology leads to a decrease in the numbers of middle managers in the library.

The third major issue dealt with matters of productivity and the quality of work. We hypothesized

e) implementation of computer technology results in a perception among employees that productivity increases;

f) implementation of computer technology results in a perception among employees that quality of work is higher.

All full time employees in the departments forming the core functional units were asked to respond to a questionnaire which included twelve questions designed to test the hypotheses. Structured interviews also were conducted with each department head and with the senior management of the library.

The twelve questions are

1. There is a lot of talk now about automation and the use of computers in libraries. How much would you say this factor has affected your own job in your own area of library service?
2. Since the computer technology has been introduced, to what extent has your job become deskilled (i.e., require fewer skills than before the technology was introduced)?
3. Overall, to what extent have the skill requirements of your job increased?
4. Since the introduction of computer technology, the number of support staff has (a scale ranging between increased to decreased).
5. Since the introduction of computer technology, the number of middle managers has (a scale ranging between increased to decreased).
6. How has the introduction of the computer changed the career opportunities for you within your library?
7. How has the introduction of the computer changed the career opportunities for you outside the library?
8. Have you used computers to work at home during your regular work hours?
9. Have you used computers to do work directly related to your job at home after your regular hours or on weekends?
10. Do you have your own personal computer or computer terminal at home?
11. How has utilization of computer technology, in general, affected your productivity?
12. How has utilization of computer technology, in general, affected the quality of your work?

These questions were derived from two similar studies, one of human resources managers in a number of companies, the other of middle managers in banking.

Five hundred and thirty questionnaires were distributed to all full-time staff in the units being investigated. Three hundred and thirty four questionnaires were returned by mail to the investigators, for a response rate of 63 percent. Two hundred and ninety two responses from individuals in the core functional units of the main library of each of the three university libraries provide the data for this study.

Preliminary analyses of the data are showing some surprising results. For example, over 50 percent of the respondents in each library indicate automation has not affected their jobs at all. Instead of a perception of job deskilling, 48 percent in one library, 44 percent in another, and 36 percent in the third report that more skills are required, not less. Overall, 36 percent of respondents report a decrease in numbers of support staff; 31 report an increase in the numbers of middle managers.

Data analysis is continuing and will be conducted on each of the three libraries and on each functional unit in the three libraries. We expect differences depending upon the extent of automation, the stage of implementation of computing technology, and on some characteristics of the staff in addition to whether they are professionals or non-professionals. For example, length of time in the job, length of time in the library, overall job satisfaction, and career expectations are likely to have an effect.

Analysis will be completed by March 1, 1987. The first paper will be submitted to College & Research Libraries by May 1. We are exploring the possibility of presenting our results at the 1987 annual conference of the American Library Association in June.

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